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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,152

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Takayasu Taniguchi

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04/01/2009

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EXAMINER

HAND, MELANIE JO

ART UNIT

PAPER NUMBER

3761

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/552,152

**Applicant(s)**

TANIGUCHI ET AL.

**Examiner**

MELANIE J. HAND

**Art Unit**

3761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection prompted by applicant's amendment to the claims.

### ***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: (1) there is antecedent basis for the phrase "outside the porous material" recited in claim 1, and (2) there is no antecedent basis for a resin that consist of a cross-linked polyacrylic acid salt.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the disclosure for the following: (1) a metal chelating agent outside of the porous material and (2) a resin that consists of a cross-linked polymer of an

acrylic acid. Regarding item (1), the word "outside" appears nowhere in the disclosure as originally filed and therefore examiner is interpreting "outside" as meaning physically outside in the end product. While the chelating agent may be a separate component in the mixture forming the absorbent resin compound, it is not outside of the porous antibacterial agent and in fact the disclosure repeatedly states that the metal chelating agent is present to form a complex with the antibacterial metal in the porous agent, both within the resin, so that the antibacterial metal does not lose its antibacterial property during polymerization. Thus, it is not possible that the metal chelating agent be located outside the porous material if the claimed invention is to function as intended. Regarding item (2), the disclosure states that the resin includes certain examples of resins listed on page 4 of the specification. This disclosure does not provide support for a resin that "consists" of cross-linked polymer of acrylic acid salt to the exclusion of other disclosed materials.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gancet et al ('772) in view of Hosokawa (EP 257,951 A2).

With respect to **claim 1**: Gancet discloses a water absorbing resin compound comprising a water absorbing resin that consist of a crosslinked polyacrylic acid salt ('772, Col. 2, lines 4-9) in powder form and an antibacterial agent having a porous material incorporating an antibacterial metal in the form of a zeolite powder with silver metal ions incorporated therein and mixed with the resin powder. The silver metal ion disclosed by Gancet is identical to a metal disclosed by applicant for the recited antibacterial metal and therefore meets the limitation of an antibacterial metal.

Gancet does not disclose that the water absorbing resin powder comprises a metal chelating agent. Hosokawa discloses a water-absorbing resin compound which comprises a water-absorbing resin and a metal chelating agent, wherein the water-absorbing resin consists of a cross-linked polymer of an acrylic acid salt. (Page 2, lines 29-31, 44-46) Since the absorbing component of the resin of Hosokawa is substantially identical in composition to that of Gancet (i.e. polyacrylic acid) and Hosokawa discloses that the addition of the chelating agent to the absorbing resin improves water absorbing performance and aging stability of the absorbing polymer. Therefore it would be obvious to one of ordinary skill in the art to modify the resin compound of Gancet by replacing the resin with the resin disclosed by Hosokawa to improve the water absorbing performance and stability of the resin and resin compound.

The compound of Gancet as modified by Hosokawa meets the limitation of a metal chelating agent outside of the porous material, inasmuch as the chelating agent is incorporated in the resin which is physically separate from the porous material.

With respect to **claim 2**: The content of the antibacterial agent is (0.01-10%) of (0.05-10%), or 0.0005-0.01 by weight of the superabsorbent resin/composition, which overlaps the claimed range of 0.001-1 parts by weight with respect to 100 parts by weight of the water-absorbing resin. (Col. 1, lines 61-65, Col. 3, lines 4-7)

With respect to **claim 3**: The content of the antibacterial metal incorporated in antibacterial agent disclosed by Gancet is 0.01-10%, which overlaps the claimed range of 0.1-15 parts by weight with respect to 100 parts by weight of the porous material. (Col. 3, lines 4-7)

With respect to **claim 4**: Gancet does not disclose a metal chelating agent. Hosokawa discloses that in the resin composition, the content of the metal chelating agent is 0.01-10 parts by weight with respect to 100 parts by weight of the water-absorbing resin. ('951, Page 2, lines 29-31) The motivation to modify the compound of Gancet by replacing the resin compound with that of Hosokawa having a chelating agent is stated *supra* with respect to claim 1.

With respect to **claims 5,6**: Gancet does not disclose a metal chelating agent. Hosokawa discloses that the metal chelating agent is EDTA, i.e. ethylenediaminetetraacetic acid, which is an aminocarboxylic acid metal chelating agent. ('951, Page 2, lines 50-53) The motivation to modify the compound of Gancet by replacing the resin compound with that of Hosokawa having a chelating agent is stated *supra* with respect to claim 1.

With respect to **claim 7**: Gancet discloses a diaper incorporating the resin compound of Gancet's invention but does not explicitly disclose an article comprising the compound and a hydrophilic fiber. Hosokawa discloses a diaper comprising an absorbent layer comprising fluff pulp (i.e. hydrophilic cellulosic fibers) and absorbent polymer 6 ('951, Page 3, lines 13-15), wherein the absorbent polymer is made from said compound containing absorbent resin and chelating agent. Hosokawa discloses that this diaper provides less liquid leakage. Therefore, it would be obvious to modify the diaper of Gancet so as to comprise the absorbent layer of Hosokawa to provide a diaper with less liquid leakage. The article/diaper of Gancet as modified by Hosokawa thus comprises a water-absorbing resin compound that meets all of the limitations of claim 1 and a hydrophilic fiber.

With respect to **claim 8**: Gancet discloses a diaper incorporating the resin compound of Gancet's invention but does not explicitly disclose an absorbing product as claimed. Hosokawa discloses an absorbent product comprising a liquid-permeable sheet 1, a liquid-non-permeable sheet 2; and an absorbing material in the form of absorbing layer 3 comprising a water-absorbing resin compound in the form of polymer 6 and a hydrophilic fiber (fluff pulp) 5, wherein the absorbing material 3 lies between the liquid-permeable sheet 1 and the liquid-non-permeable sheet 2. Hosokawa discloses that diaper provides less liquid leakage. Therefore, it would be obvious to modify the absorbent product of Gancet so as to comprise the absorbent product/diaper of Hosokawa to provide a diaper with less liquid leakage. The article/diaper of Gancet as modified by Hosokawa thus comprises a water-absorbing resin compound that meets all of the limitations of claim 1.

With respect to **claim 9**: Gancet discloses that the antibacterial agent is present within the zeolite and mixed with the absorbing resin powder. Gancet also discloses that the absorbing resin compound of the invention does not give rise to either a large evolution of ammonia or to the emission of odors. ('772, Col. 1, lines 49-57) Both an eluting type and a noneluting type of antibacterial agent would accomplish both of these goals. Given the method by which the resin compound is formulated (i.e. by mixing the resin and zeolite powders), one of ordinary skill in the art could reasonably expect that either an eluting zeolite with metal therein or a noneluting zeolite is present and would be effective. Thus, though Gancet does not explicitly disclose whether the agent is eluting or noneluting, it would be obvious to one of ordinary skill in the art to modify the article of Gancet such that the antibacterial agent is an eluting-type with a reasonable expectation of success to prevent a large evolution of ammonia or strong odor.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELANIE J. HAND whose telephone number is (571)272-6464. The examiner can normally be reached on Mon-Thurs 8:00-5:30, alternate Fridays 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on 571-272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Melanie J Hand/  
Examiner, Art Unit 3761